PRELIMINARY ASSESSMENT
CENTER STAR MANUFACTURING FACILITY
OXFORD, CALHOUN COUNTY, ALABAMA
EPA ID No.:
CERCLIS SITE REF. No.:

Received "Draft" PA from Larry Norris AT Site on 7/20/99 DK/knight, OSC

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Date: *June 15, 1999*

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Site: *Center Star Manufacturing, Inc. Facility*
207 Hamric Drive
Oxford, Calhoun County, Alabama 36203

EPA ID No.:
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1. INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) and a cooperative agreement between the U. S. Environmental Protection Agency and the Alabama Department of Environmental Management (ADEM), a Preliminary Assessment (PA) was conducted at the Center Star Manufacturing, Inc. Facility. The purpose of this investigation was to collect information concerning conditions at the site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other action. The scope of the investigation included a review of available file information, a comprehensive target survey, and site reconnaissance's on March 17, 1999 and April 8, 1999 (Attachment XX, Attachment XX).

2. SITE DESCRIPTION, SITE HISTORY, AND WASTE CHARACTERISTICS

2.1 Location

The Center Star Manufacturing, Inc. Facility is located at 207 West Hamric Drive in Oxford, Alabama (Figure X). Oxford has a population of approximately 8900 and is located in southern Calhoun County, Alabama. More specifically, the site is a 5.1 acre parcel of land located in the northwest ¼ of the north west ¼ of the southwest ¼ of Section 30, Township 16 South, Range 8 East (Reference X). The geographical coordinates of the site, collected with GPS, are 33° 36' 22.5" North Latitude and 85° 50' 47" West Longitude (Reference X).

The climate of Calhoun County is described as humid subtropical The climate is characterized by long, hot summers, short, mild winters, and heavy precipitation throughout the year. The average annual rainfall for Calhoun County is 54 inches with 19.7 of those inches running off into the streams (Reference X). The former Center Star Manufacturing, Inc. facility is located in an area determined to be outside of the 500 year flood plain (Reference X).

For Calhoun County, the annual average temperature is 62° F with an average temperature in the summer of 80° F and an average temperature in the winter of 43° F (Reference X).

2.2 Site Description

The former Center Star Manufacturing, Inc. facility is located in the city of Oxford, Alabama at 207 West Hamric Drive. Hamric Drive and U.S. Highway 78 are the same thoroughfare. It is located on the right side of the road approximately ¾ of a mile from the junction of U.S. Highway 78 and State Highway 21 as one travels west. The former Center Star Manufacturing, Inc. facility consists of a single concrete building housing six bays. The building appears to have had three sheet metal extensions added on and they include three of the bays. Two of the additions are side by side on the north end of the building and the other is on the northeast corner of the building. The northern part of the building has a loading dock. There is also one loading dock located at the southwestern corner of the building. At the time of the March 17, 1999 site investigation, the northernmost metal add on bay was empty except for the an Eclipse Boiler and two condenser units. The adjacent metal add on bay contained warehoused material from a company that was using part of the building for storage. The metal add on bay in the northwest corner of the building was empty. The next bay contained some warehoused materials on the northside of the bay and some nonhazardous chemicals left by the company near the southeast corner of the bay. The next bay was a wooden walled enclosure with an office space, this bay was empty. The last bay had a large empty caustic tank near the southwestern corner. There was evidence of corrosion on pipe fittings associated with this tank. Just north of the tank are two large manhole covers. It is presently unknown what is beneath them. There are infoundation drainage ditches running north/south and east/west to a State Indirect Discharge (SID) permitted outfall. Near the middle of the northern end of the bay are two hoods that vent to the roof. It is unknown what processes required the installation of the hoods. To the east of the hoods is a wall that is open ended to the south. Behind the wall is a substantial amount of chemicals both hazardous by characteristic and by constituents and nonhazardous chemicals. The majority of the hazardous chemicals stored in close proximity appeared to be incompatible Adjacent to the chemicals is a large in foundation dye pit. A geoprobe sample was acquired just to south of the dye pit. Near the southeast corner of the bay is another open ended wall behind which there is a Cleave Brooks Eclipse Boiler. This area contained a number of black plastic containers labeled corrosive. There was also one severely corroded drum that is leaking a white and blue substance. Restrooms, offices, a maintenance shop, and a quality control laboratory are located the length of the west side of the building. The building rests upon a concrete foundation atop near what appears to be the lowest elevation of the 5.1 acre property. A locked, chain link fence surrounds the entire property. The fence on the northern side of the property has fallen and is overgrown with vegetation. Within the fence, virtually the entire site is either under roof or paved. A small area of vegetation separates the upper parking area from the lower parking area and building. The vegetation did not appear to be stressed at the time of the inspection. West Ninth Street runs parallel to the northern border of the site and a gate opens at the northeast corner of the site.

The former Center Star Manufacturing, Inc. facility property is almost completely paved and falls downgradient from the northern fenced boundary. There were no well-defined erosion channels present at the time of the march 17, 1999 site investigation. The area immediately north of the fenced area has a number of residences. The area immediately west of the site is an

equipment sales and service operation owned and operated by Tractor & Equipment Co., Inc. (TEC).The area immediately to the west has three facilities, Orkin Pest Control to the farthest southwest, Wilson Detail & Carwash in the center, and Coleman Construction Company to the northwest. Coleman Construction Company does asphalt work and has an underground storage tank on its site. The southern end of the property is bordered by U.S. Highway 78 locally named Hamric Drive. Hager Hinge Company is located directly across this street.

As previously mentioned, the closest residences to the site are located to the north and upgradient of the facility. The eastern residences are located 3/4 of a mile away on Hamric Drive. The southern residences are located less than 1/4 of a mile south off State Highway 21. The western residences are located 1/4 miles away on Hamric Drive.

The Center Star Manufacturing, Inc. Facility site is situated in southeastern Calhoun County in what is considered to be the Wiesner Ridges physiographic district of the Alabama Valley and Ridge physiographic section. The surface elevations for the Wiesner Ridges District typically range from 640 to 2100 feet above mean sea level (MSL) (Planert and Pritchett, 1989). The surface elevation at the site is approximately 680 feet MSL (Reference X).

Surface water drainage from the site appears initially to be to the south into a subsurface ditch/unnamed tributary of Choccolocco Creek. This unnamed tributary then flows approximately 200 feet to the east before turning to the southeast going under Hamric Drive and then U.S. Interstate 20 where it flows through a small residential area. It then flows past the Anniston Metro Airport and into Choccolocco Creek approximately 1/2 miles away from the site. The unnamed creek is not listed in the ADEM Admin. Code R. 335-6-11-.02 with a use classification. However, it is noted in the regulations that segments not listed should be designated as Fish and Wildlife classification. The section of Choccolocco Creek within 15 miles downstream of the site is listed with a use classification of Fish and Wildlife (Reference X).

2.3 Operational History and Waste Characteristics

Center Star Manufacturing, was a locally owned concern. Little is known of the processes undertaken at the site other than that the facility was part of the textile industry and primarily produced shirts, Based on a review of material contained in the Alabama Department of Environmental Management Industrial Wastewater files, it appears that waste generated from Center Star Manufacturing's site was disposed of through the SID permitted outfall as no information on the facility could be located through RCRIS.

Photos of the Center Star Manufacturing, Inc. Facility taken on March 17, 1999 show drums and containers of various solid and hazardous wastes staged at the site (Attachment X). A few of the drums/containers appeared to be corroded or otherwise ineffectual as containment. In addition to the photos of containerized waste, other photos include; a view from the upper parking lot at the northern end of the property facing south, a view of five drums, two metal and three plastic (one of which was bulging) of unidentified material at the southern end of the upper parking lot, a view a concrete diked tank of what appears to be caustic soda inside the building, a view inside the berm indicated residue exuding from the joints in pipes attached to the tank, a view of white

chemical residue on the concrete foundation, a view of what apparently was a waste collection system of some type, and a view of a what appears to a pressurized tank used in to degree in the company's processes (Attachment X).

Groundwater samples collected at the Center Star Manufacturing, Inc. facility on July 2, 1998 and August 6, 1998, by personnel from Bhate Environmental, Inc. exhibited volatile organic compound (VOCs). Constituents discovered included toluene, ethylbenzene, xylenes, cis-1,2,-dichloroethene, tetrachloroethene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, trichloroethene, vinyl chloride, 1,1-dichloroethene, 1,1,2-trichloroethane. Tetrachloroethene and trichloroethene contamination levels exceeded ADEM maximum contaminant levels (MCLs). (Attachment X). On the basis of these analyses, it may be assumed that hazardous waste has been disposed of at the site.

The Industrial Development Board of the City of Oxford presently owns the site on which the Center Star Manufacturing, Inc. facility operated. The First Commercial Bank of Birmingham has a mortgage on the property.

3. GROUND WATER PATHWAY

3.1 Hydrogeologic Setting

Calhoun County is located northeast of the southern terminus of the Alabama section of the Appalachian Valley and Ridge physiographic province. This province is characterized by linear northeast-southwest trending valley and ridges that are underlain by metasedimentary and sedimentary rocks. The section of the Valley and Ridge located in Calhoun County is subdivided into the Cahaba Ridges district, the Cahaba Valley district, the Coosa Ridges district, and the Coosa Valley district. The ridges consist of resistant sandstone and chert-bearing units and the valleys consist of carbonate rocks and shale. Rock units in Calhoun County range in age from Cambrian to Pennsylvanian and have been deformed by folding and thrust faulting (Tew, 1986).

The Center Star Manufacturing, Inc. Facility site is located within the outcrop area of the Cambrian age Shady Dolomite. The Cambrian age Shady Dolomite is described by Moser and DeJarnette, 1992, as: Bluish-gray or pale-yellow thick bedded siliceous dolomite with coarsely crystalline porous chert. Thickness range of the Shady Dolomite below Calhoun County is approximately 700 feet.

Consolidated sedimentary rocks that range in age from the Cambrian to Pennsylvanian underlie the majority of Calhoun County These rocks have been sharply folded into a series of northeast trending anticlines and synclines complicated by thrust faults. In the extreme southeastern portion of the county metamorphic rocks of the Piedmont have been thrust up to the northwest and overlie sedimentary of Cambrian and Ordovician age.

An unnamed fault traverses approximately 0.5 miles to the northwest of the site, the Jacksonville Fault traverses approximately 3.5 miles to the northwest of the site, and the Cartersville Fault traverses approximately 3.5 miles to the southeast of the site. The site is located in an area that is

highly susceptible to karst formation and, therefore, correspondingly susceptible to contamination from surface or near surface sources. The depth to the shallowest aquifer for the Center Star Manufacturing, Inc. site could be as little as 25 feet (Reference X).

3.2 Ground Water Targets

The Center Star Manufacturing, Inc. Facility site is located within the recharge area for the Valley and Ridge aquifer system, and in the outcrop area of the Shady Dolomite. Groundwater in these units occurs in interconnected solution channels containing potentially large amounts of water. Wells completed in the Shady Dolomites have yielded 69 to 472 gpm (Moser and DeJarnette, 1992).

There are three active public water supply wells and two test wells located within 4 miles of the site (Figure X). The closest active public water supply well is operated by the Lee Brass Company, and is located approximately 3.28 miles to the northeast of the site. The other two wells are operated by the city of Oxford and are located approximately 3.37 miles to the southwest of the site and 3.78 miles to the southeast of the site. The two test wells are located approximately 0.9 miles and 2 miles to the southwest of the site. The test wells are currently being developed for public water supply and will be in service in approximately one year. One of the test wells (Eagle Well) has had TCE detected in two samples collected from the well, and the maximum concentration detected to date is 8 ppb (Personal communication with ADEM Water Supply Branch). The site is not in a designated wellhead protection area; however, wellhead protection areas are located within four miles of the site.

3.3 Ground Water Conclusions

There are three active public water supply wells and two test wells located within 4 miles of the site. New domestic and industrial wells could possibly be located within a four-mile radius of the site, and the wells that have been identified within a four-mile radius of the site could have been abandoned or may no longer be in use (Reference X). Even under the assumption that there has been no release to the groundwater pathway, the Center Star Manufacturing, Inc. Facility warrants further investigation due to its relative proximity to the Oxford public water supply, the karst geology of the region, and the potential proximity to the shallowest aquifer.

The Oxford Water And Sewer Board receives one hundred percent of its water from the afore-mentioned public water supply wells. A total of 7000 customers receive their public water from the City of Oxford Water Treatment Plant and could be subject to potential contamination from the Center Star Manufacturing, Inc. site via the groundwater pathway (Reference X).

4. SURFACE WATER PATHWAY

4.1 Geomorphologic Setting

Once the overland drainage from the Center Star Manufacturing, Inc. Facility site enters easterly into the unnamed tributary to Choccolocco Creek, it will travel approximately 1/2 mile in a southeasterly direction before reaching Choccolocco Creek (Reference X), where it will continue for the entire targeted 15-mile downstream surface water pathway. In the 15-mile surface water pathway, Choccolocco Creek has an average flow of 744 cfs (Reference X). The lowest flow to which Choccolocco Creek will decline during 7 consecutive days on an average of once every 2 years of normal flow (7-day Q2) is estimated to be 53 cfs. The 7-day Q10 is estimated to be 34 cfs. (Reference X)

4.2 Surface Water Targets

The 15-mile downstream surface water pathway (SWP) begins at the Center Star Manufacturing, Inc. site and flows to the east. It then travels in a southeastern direction along an unnamed tributary to Choccolocco Creek, and ends at a point just south and east of Anniston Metro Airport on Choccolocco Creek (Plate 1). Within the 15-mile SWP the unnamed tributary is classified for fish and wildlife, and Choccolocco Creek is classified for fish, and wildlife (Reference X).

Along the entire targeted overland drainage and surface water pathways there are no known wetlands that could come in contact with water from the site (Reference X). The Center Star Manufacturing, Inc. site, and the land along the banks of Choccolocco Creek and its intermittent tributaries might be critical to the support of many threatened and endangered terrestrial species. The following table lists the aquatic wildlife that is thought to have a high probability of being exposed to contaminants from the Center Star Manufacturing, Inc. site if a substantial amount of hazardous constituents were to enter into the surface water pathway:

Common Name	***Listing***	***Distribution in Alabama***
Blue Shiner	Threatened	Coosa River
Upland Combshell Mussel	Endangered	Coosa River
Southern Acornshell Mussel	Endangered	Coosa River
Fine-Lined Pocketbook Mussel	Threatened	Coosa River
Alabama Moccasinshell Mussel	Threatened	Coosa River
Southern Clubshell Mussel	Endangered	Coosa River
Southern Pigtoe Mussel	Endangered	Coosa River
Ovate Clubshell Mussel	Endangered	Coosa River
Triangular Kidneyshell Mussel	Endangered	Coosa River
Tulotoma Snail	Endangered	Coosa River
Goldline Darter	Threatened	Calhoun County

Orange-nacre Mucket	Threatened	Calhoun County
Coosa Moccasinshell mussel	Endangered	Coosa River

(Reference X; Reference X)

4.3 Surface Water Conclusion

A release to the surface water pathway should not be assumed. Greater than ninety percent of the property is either paved or under roof. based on the site's elevation in relation to that of the land lying between the Center Star Manufacturing, Inc. facility site and Choccolocco Creek. However, the site's potential for further impacting Choccolocco Creek warrants additional study in this area.

5. SOIL EXPOSURE AND AIR PATHWAY

5.1 Physical Conditions

The Soil Conservation Service (SCS) classifies soils at the Center Star Manufacturing site as Anniston gravelly clay loam, 10 to 15 percent slopes, severely eroded (Reference 3). The soils in this classification are described by the SCS as areas that were formerly Anniston gravelly loam or Allen gravelly loam that have lost most of their original surface soil through erosion. The surface layer is now a reddish-brown gravelly clay loam that is approximately 4 to 6 inches thick, and is underlain by red or dark reddish-brown gravelly clay loam. These soils are moderate to rapidly permeable (Harlin and Perry, 1961).

5.2 Soil and Air Targets

There are no people working at the Center Star Manufacturing, Inc. Facility site, as it is abandoned. Residences are located as close as 400 feet from the site. The nearest School, Oxford High School, is approximately 1/2 miles northeast of the site and has 960 students enrolled. Oxford Elementary School, located approximately 1 & 1/2 miles west of the Center Star Manufacturing, Inc. site, presently has 735 students enrolled. The Fall, 1999 registration is predicted to increase to >1000 students due in part to expansion.. The Oxford Middle School is located 2 & 1/2 miles to the west and has 729 students. Three daycare facilities with an aggregate population of 124 children were observed within 1/2 of a mile of the site during the site reconnaissance. According to the Alabama 1990 census records, the average number of people living in homes located in Oxford, Alabama is 2.78 residents per household (Reference 9). In the following table, the total population within the target area has been broken down into sub-populations that live within each specified distance radius from the site: (Reference **X**)

DISTANCE FROM SITE	*POPULATION*
¼ Mile	12
½ Mile	34
1 Mile	140
2 Miles	808

3 Miles	1293
4 Miles	1685
TOTAL POPULATION	**3972**

None of the Center Star Manufacturing, Inc. site is considered to be a wetland environment. Within the 4-mile target area and the 15-mile surface water pathway are no known wetlands. It is not known if the Center Star Manufacturing, Inc. site is a critical habitat for federally designated endangered or threatened species, but the table below list the terrestrial species that may utilize the land and surface waters located within the specified target areas:

Common Name	***Listing***	***Distribution in Alabama***
Florida Panther	Endangered	Statewide
Bald Eagle	Threatened	Statewide
Red Wolf	Endangered	Statewide
Backman's Warbler	Endangered	Statewide
Wood Stork	Endangered	Statewide
Ivory-billed Woodpecker	Endangered	South, West-Central
Red-cockaded woodpecker	Endangered	Statewide
Gray Bat	Endangered	Calhoun County
Indiana Bat	Endangered	Calhoun County
American Pergrine Falcon	Endangered	Statewide
Eskimo Curlew	Endangered	Statewide
Bachman's Warbler	Endangered	Statewide

(Reference X; Reference X)

5.3 Soil Exposure and Air Pathway Conclusion

Equipment that had been located below the two installed ventilation hoods has been removed. Therefore no obvious air targets or potential air migration pathways are evident at the Center Star Manufacturing, Inc. facility.

6. SUMMARY AND CONCLUSIONS

Extant records do little towards identifying the exact types and volumes of wastes disposed, or otherwise released at the Center Star Manufacturing, Inc. site. A review of industrial wastewater records indicates that the facility had a State Indirect Discharge Permit (SID). The permit, number IU 35-08-00215, indicates that the facility monitored for flow, pH, BOD5, TSS, COD, Temperature, total copper, total chromium, total zinc , and color. The facility discharged on average forty-three thousand gallons of wastewater per day The permit did not allow for the discharge of ignitable materials or corrosive materials. Groundwater samples taken at the site conclusively demonstrate the existence of contamination. Current site conditions indicate that

the contamination resulting from waste handling practices at the Center Star Manufacturing, Inc. facility continue to impact groundwater at the site.

Due to the site's elevation in relation to the pathways to groundwater and surface water, the potential for migration along these pathways clearly exists. Because of this potential for contamination, and the size of the population such contamination could, theoretically, effect, it is recommended that the Center Star Manufacturing, Inc. facility be further evaluated under the authority of CERCLA/SARA.

7. REFERENCES

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4. Stephens, Robert W., United States Department of Agriculture Soil Conservation Service and Forest Service in cooperation with Alabama Department of Agriculture and Industries and Alabama Agricultural Experiment Station, 1984, Soil Survey of Calhoun County, Alabama.

5. Hayes, Eugene C., Geological Survey of Alabama, 1978, 7-Day Low Flows and Flow Duration of Alabama Streams Through 1973. Geological Survey of Alabama Bulletin 113.

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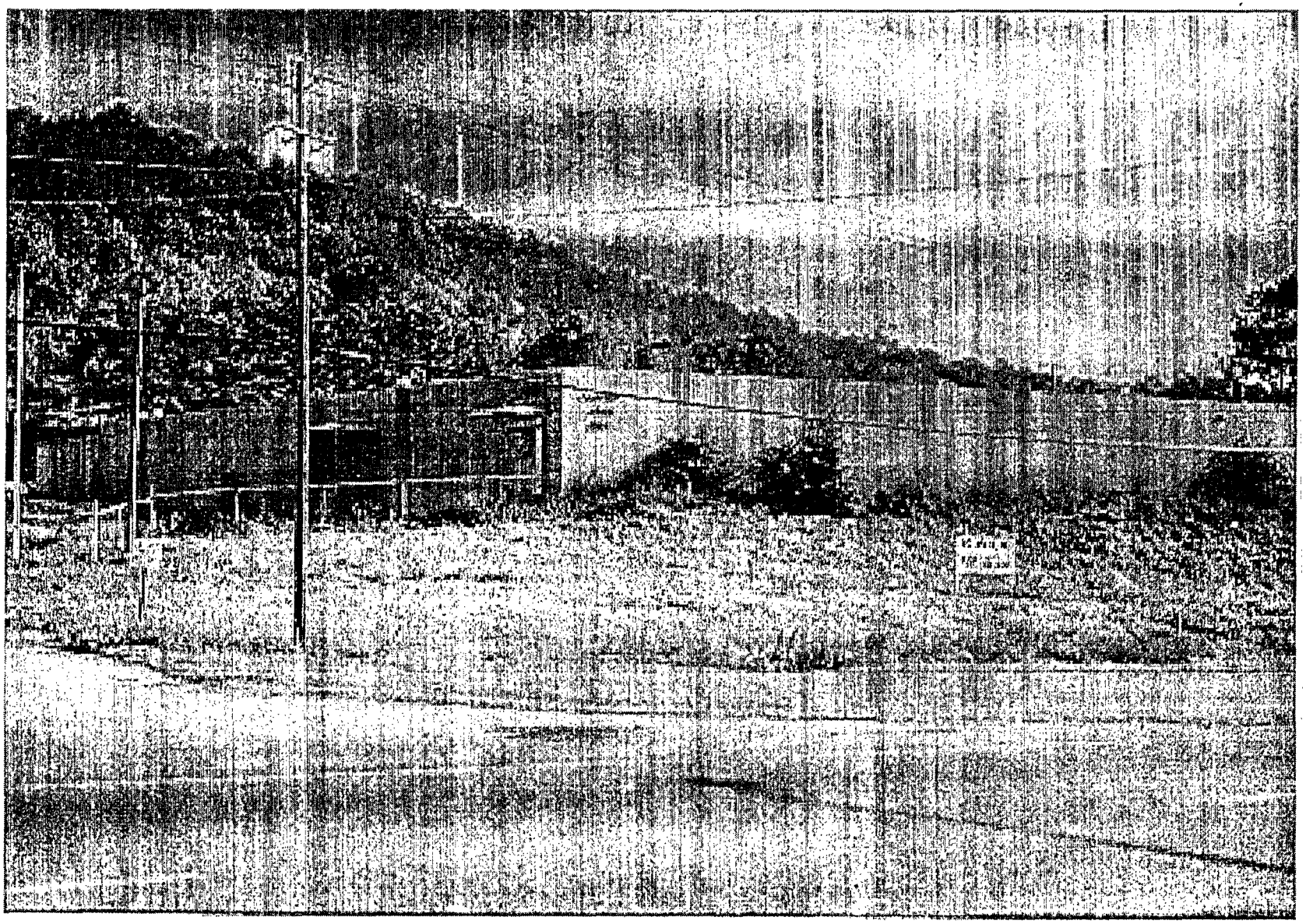
9. Alabama Municipal Data Book 1993, Alabama Department of Economic and Community Affairs Planning and Economic Development Division, 1992.

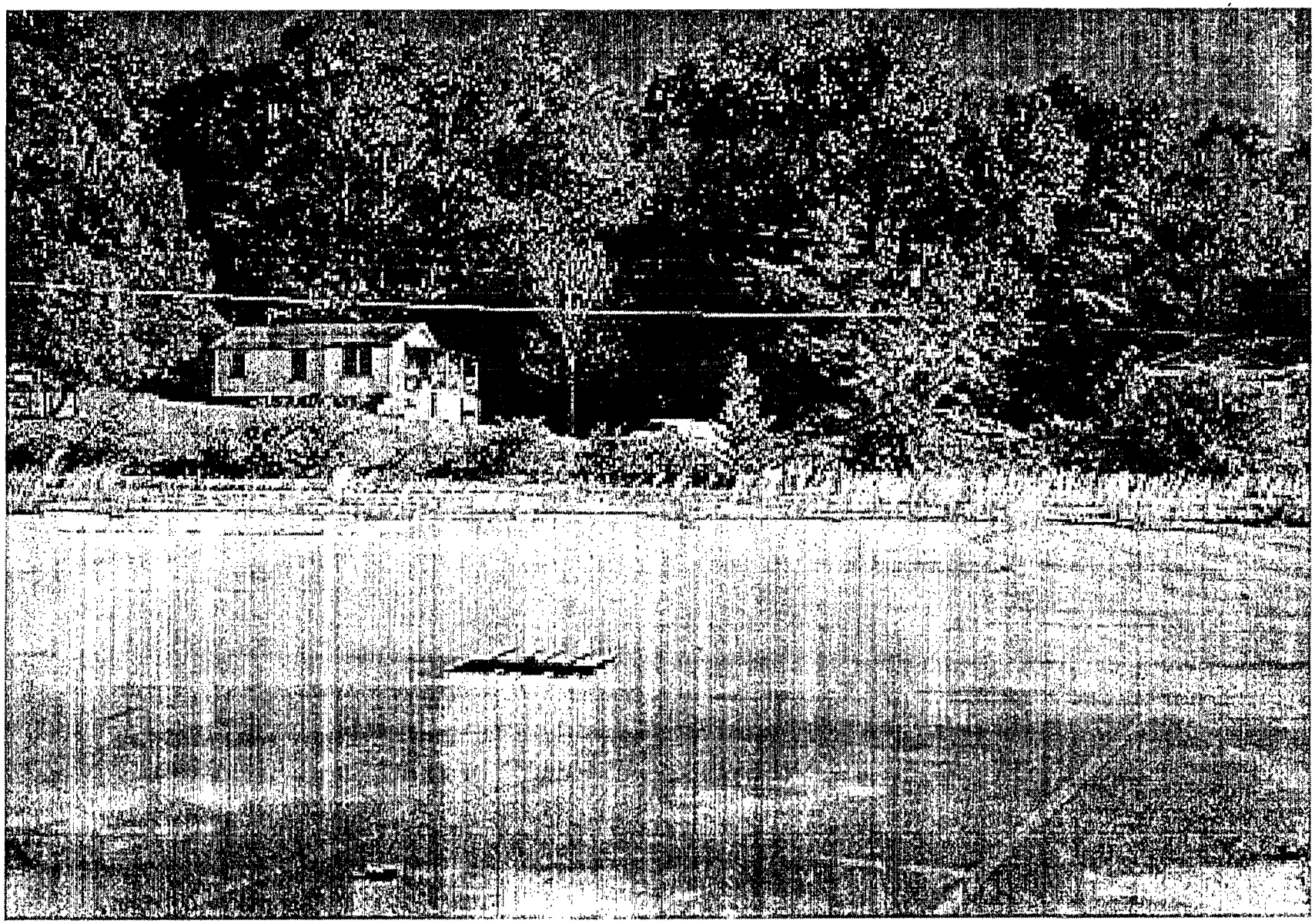
10. Federal Emergency Management Agency. Federal Insurance Administration. Flood Insurance Rate Map #010023 0003 C. City of Oxford, Alabama. Revised February 3, 1993.

11. Alabama Department of Environmental Management, Federal Reporting Data System (FRDS-II), Public Water Supply Summary for Selected Areas of Calhoun and Talladega Counties.

12. U.S. Geological Survey Data Report, AL-97-1, 1998.



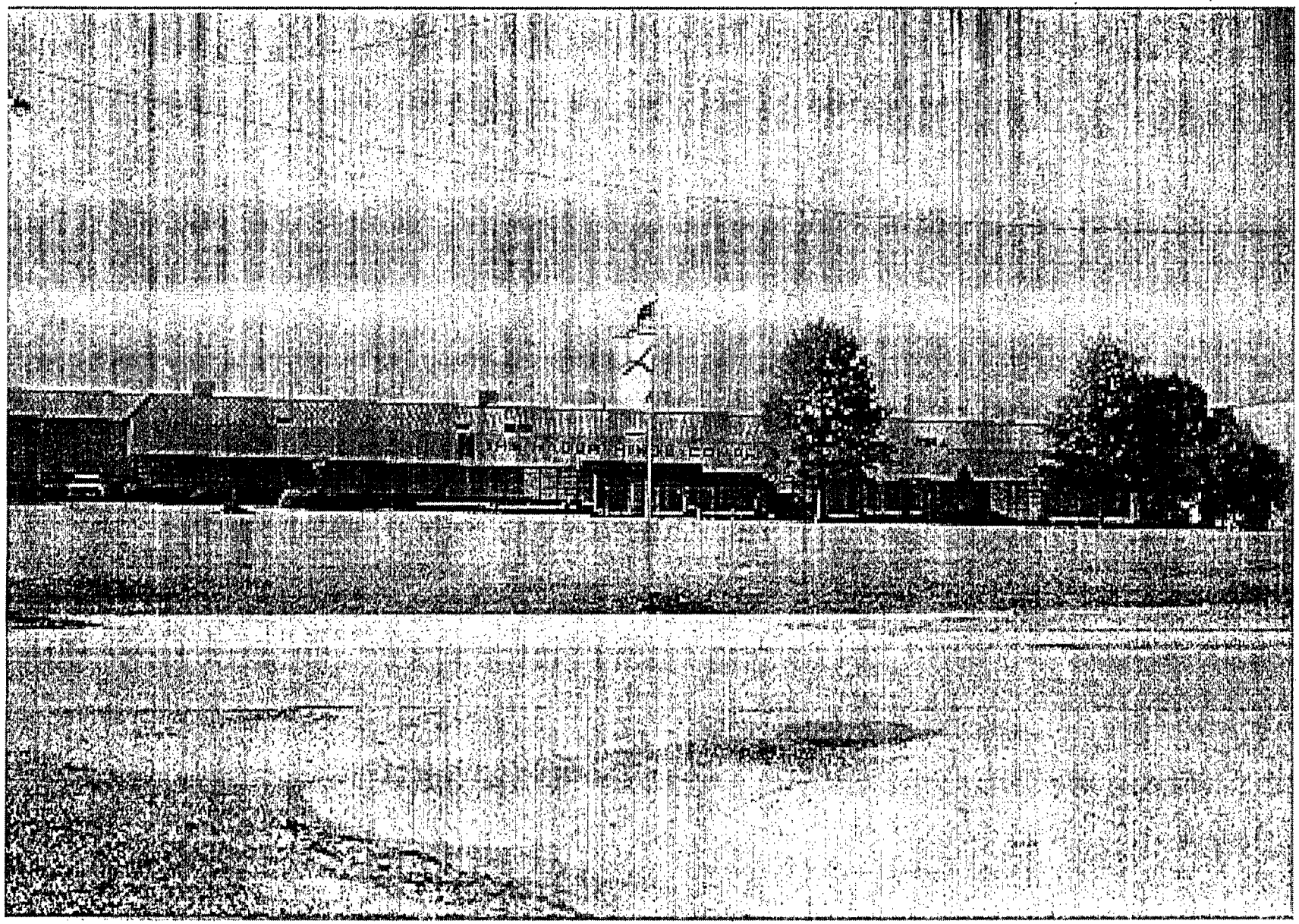
View of former Center Star Manufacturing, Inc. facility from southwest corner (U.S. Hwy 78).



View of northern parking area and nearest residences.

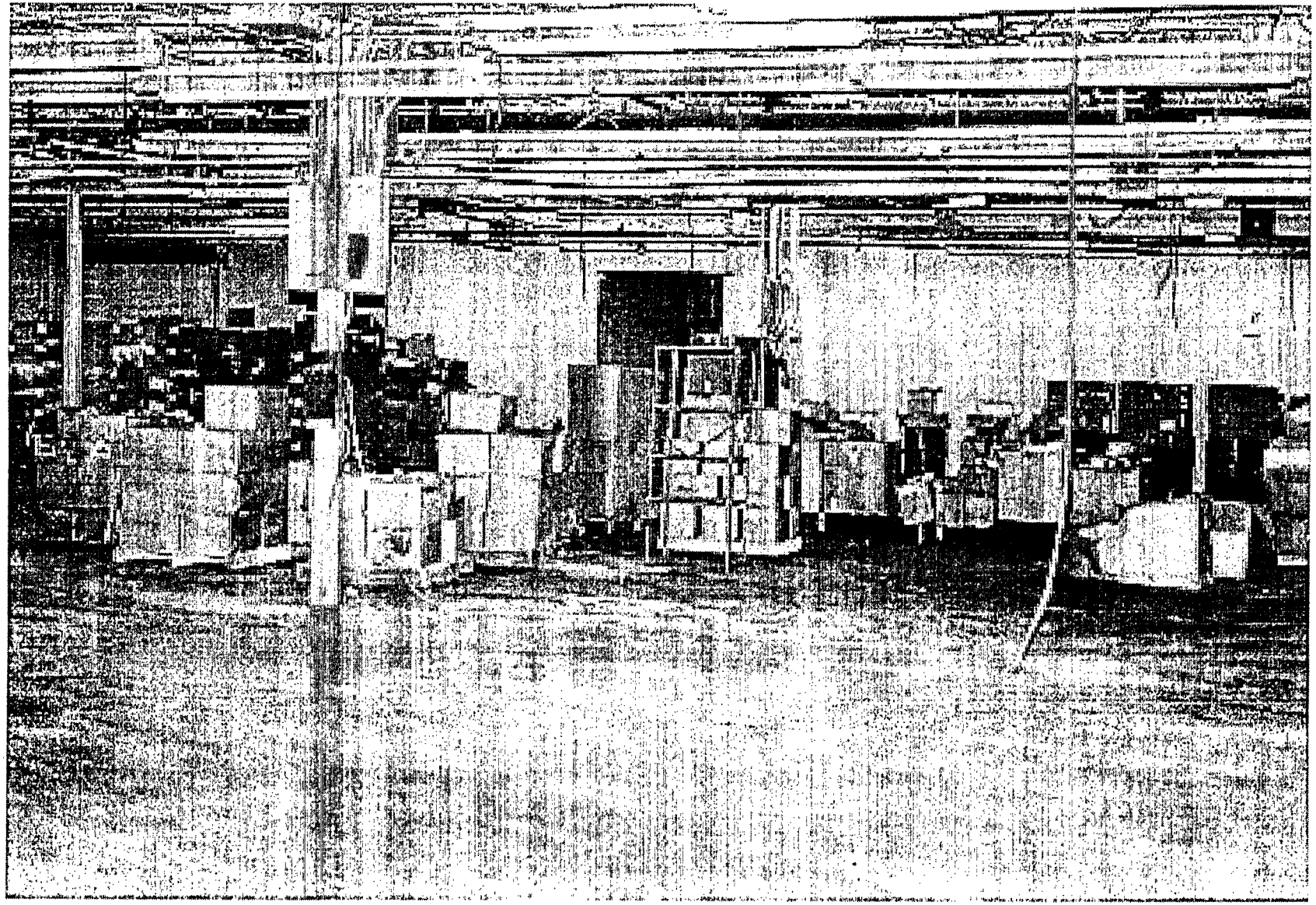
Plate No. 4

View from northern parking lot looking south.



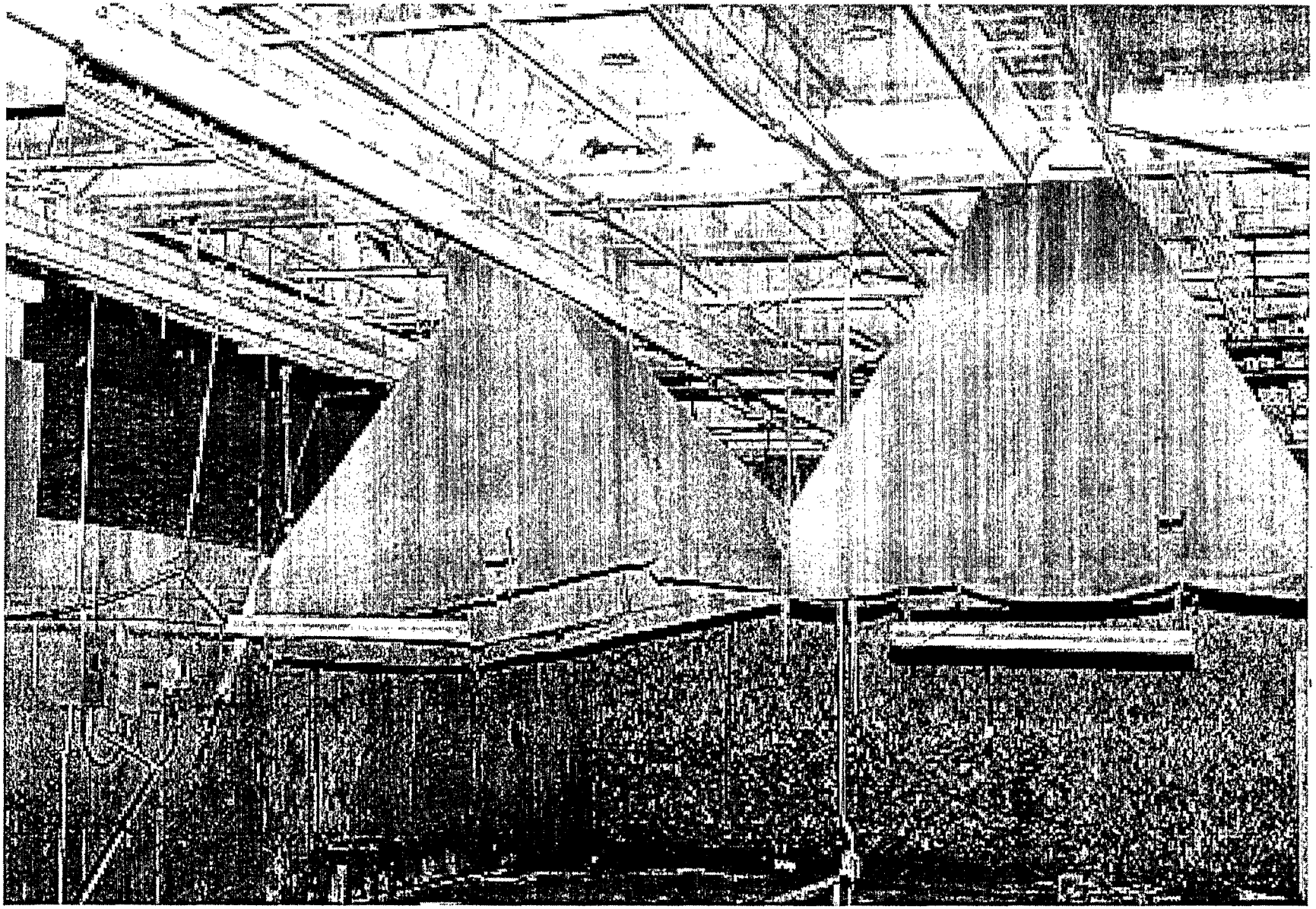
Hager Hinge Company-Southside of U.S. Hwy 78.

Plate No. 6

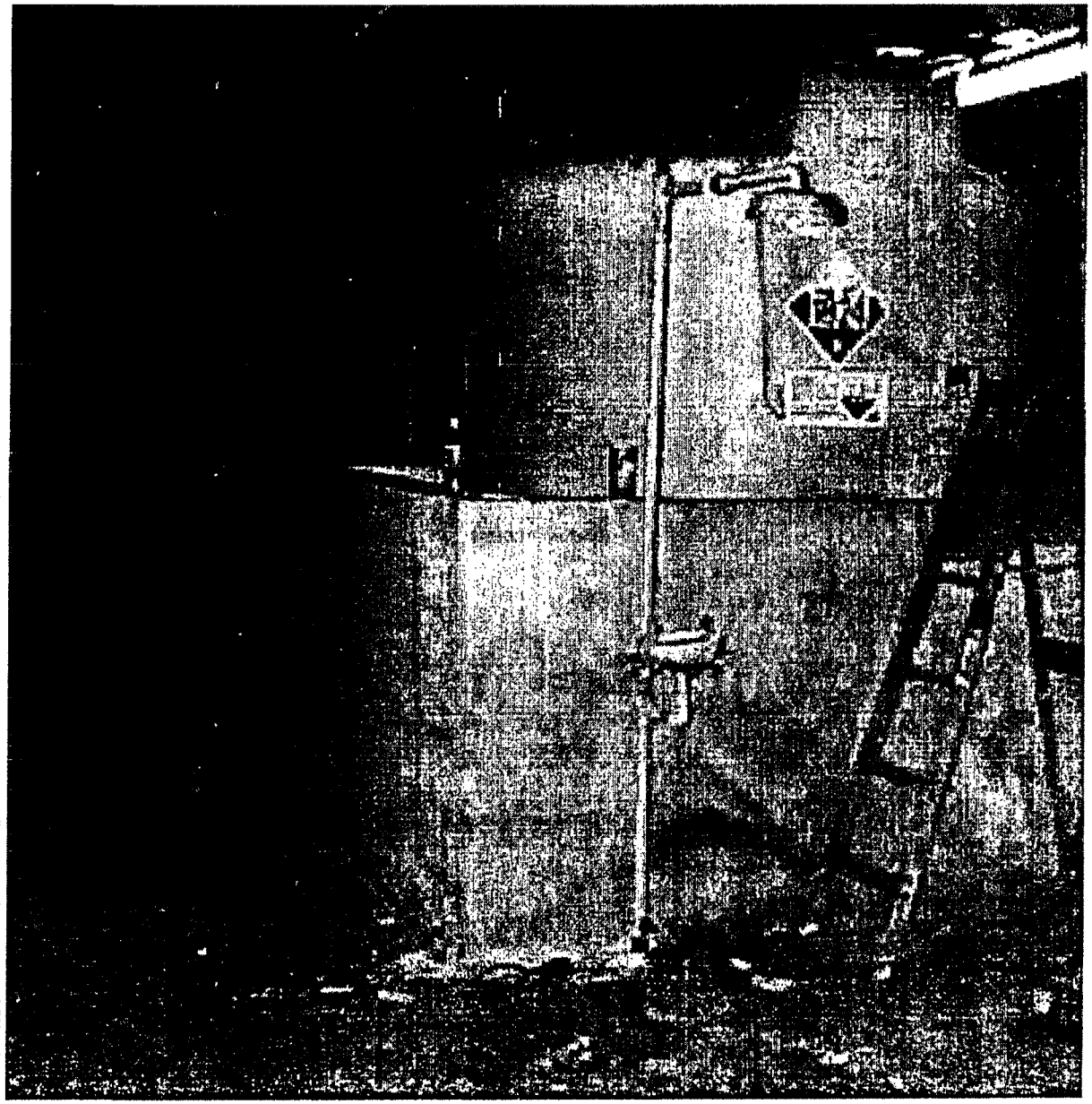


View of warehoused goods.

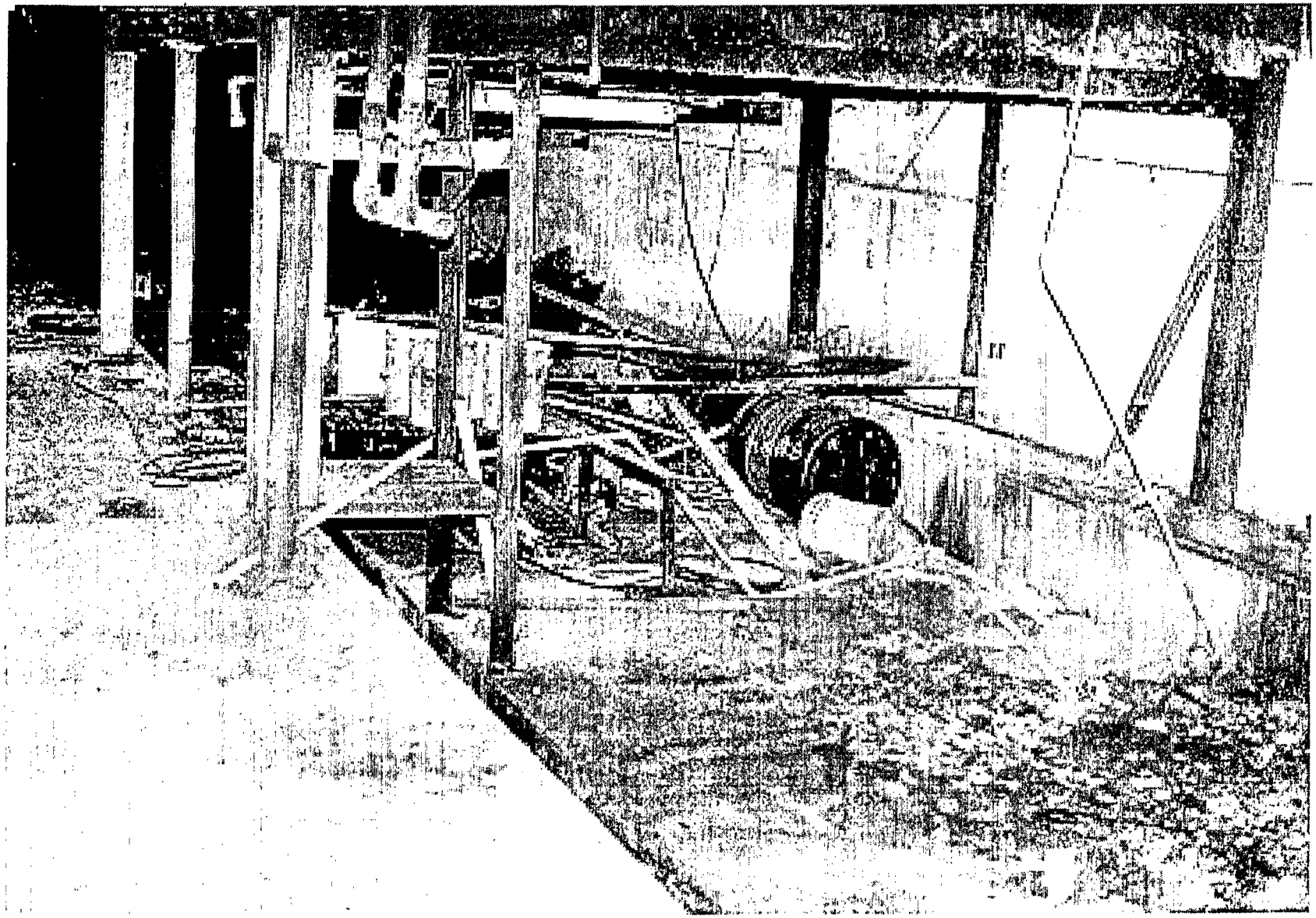
Plate No. 7



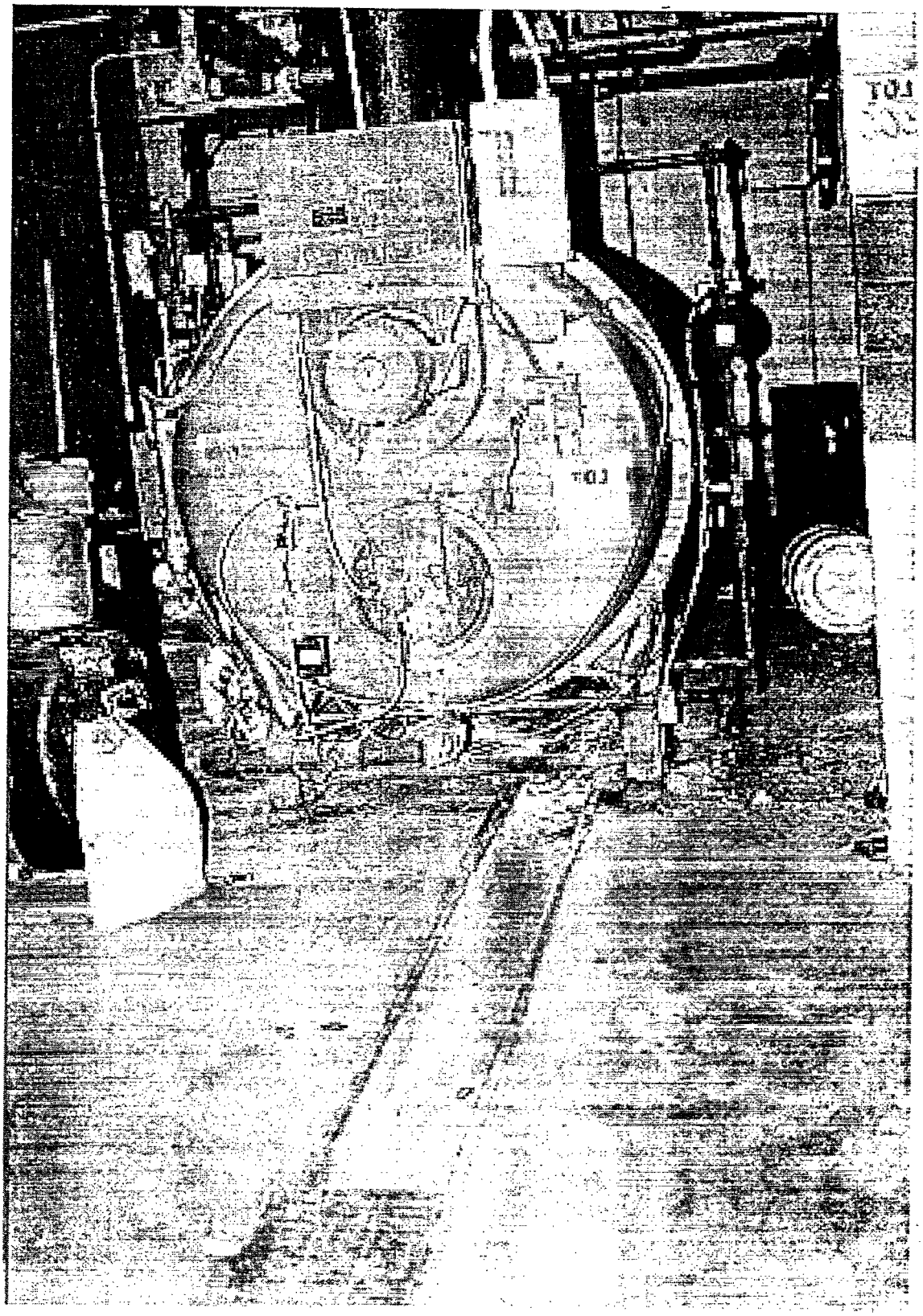
View of ventilation hoods.



View of caustic tank.



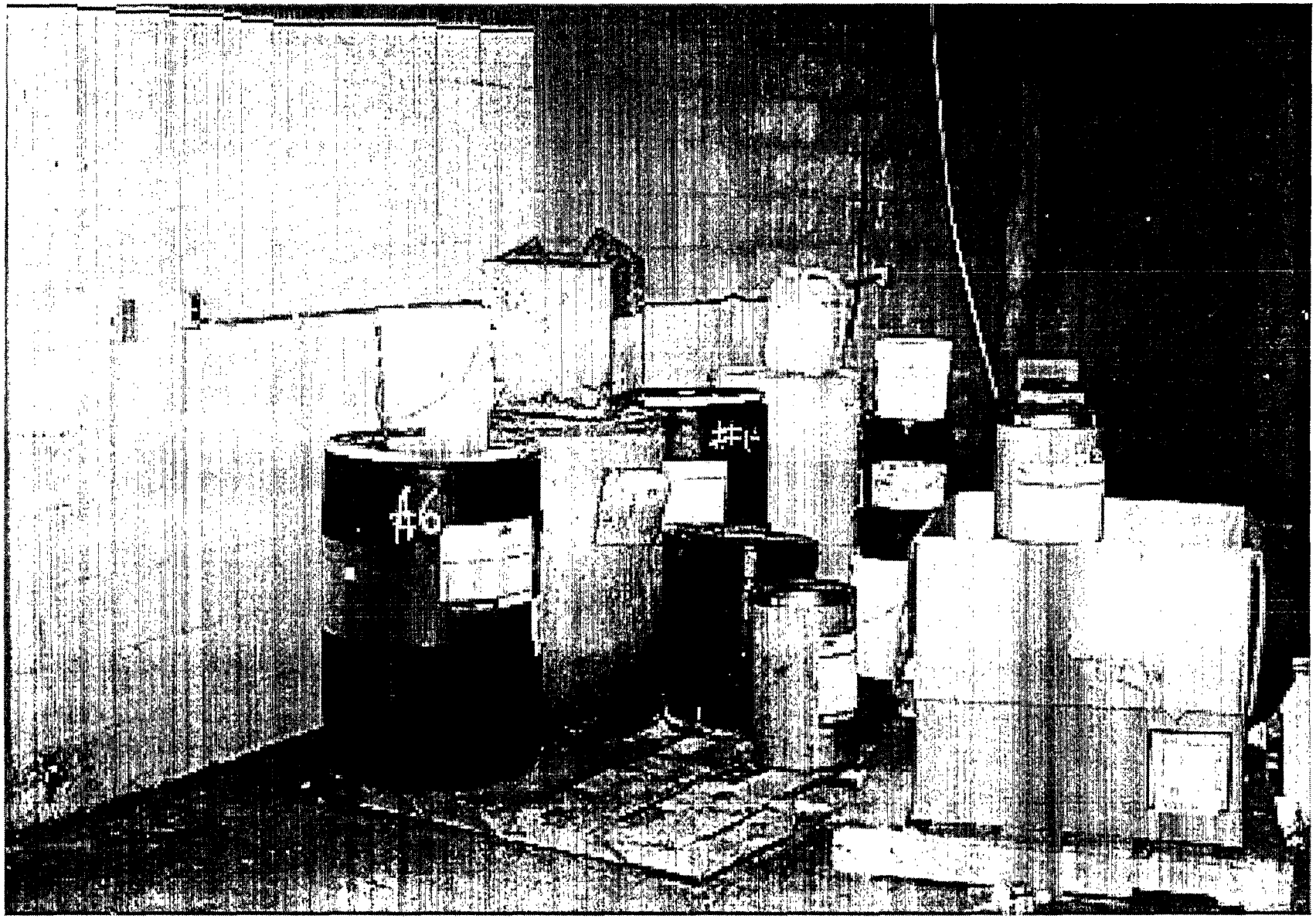
View of infoundation dye pit/tank.



View of Eclipse Boiler.

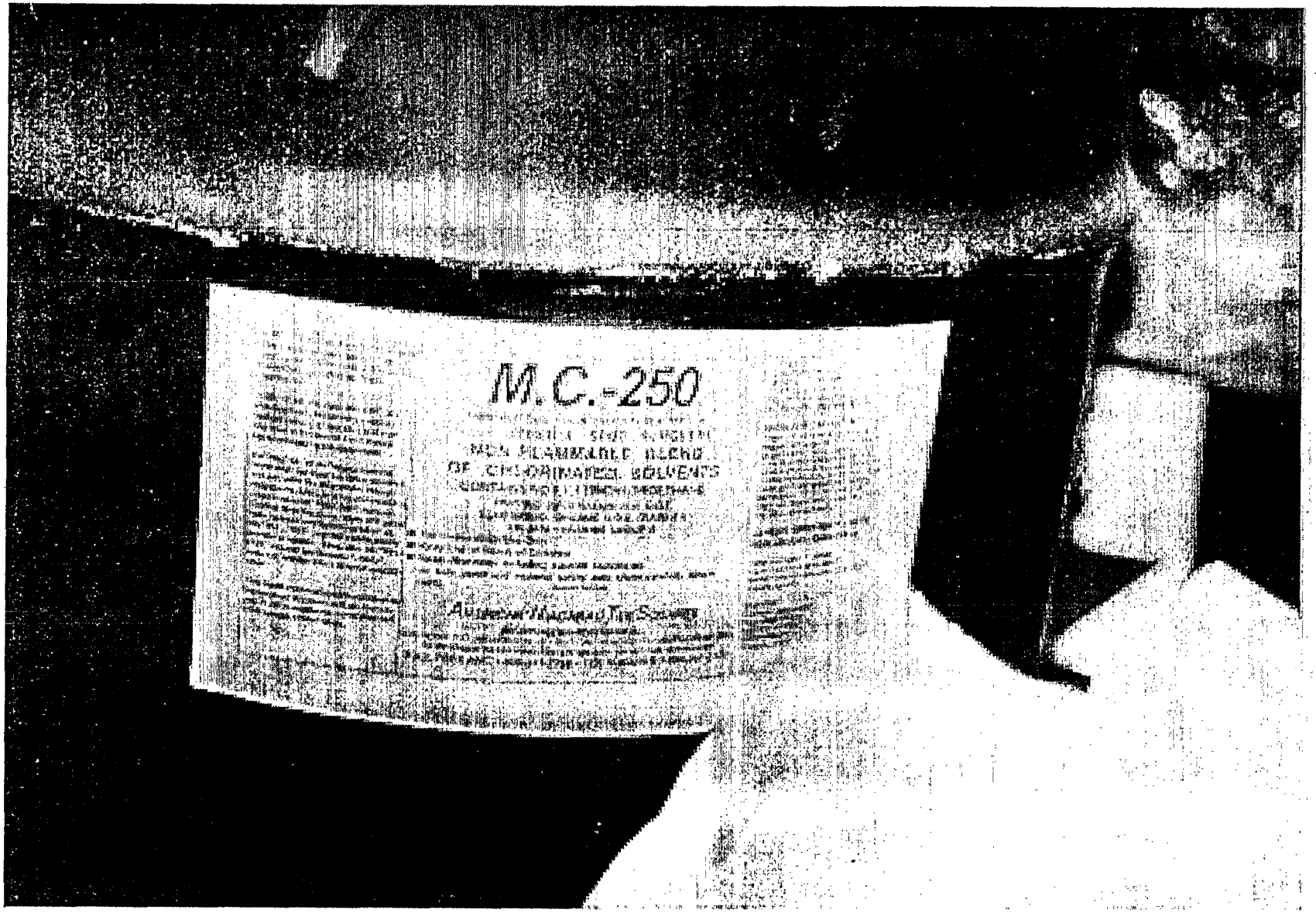
View of NPDES/SID drainage system.

Plate No. 12



View of nonhazardous waste chemicals.

Plate No. 13

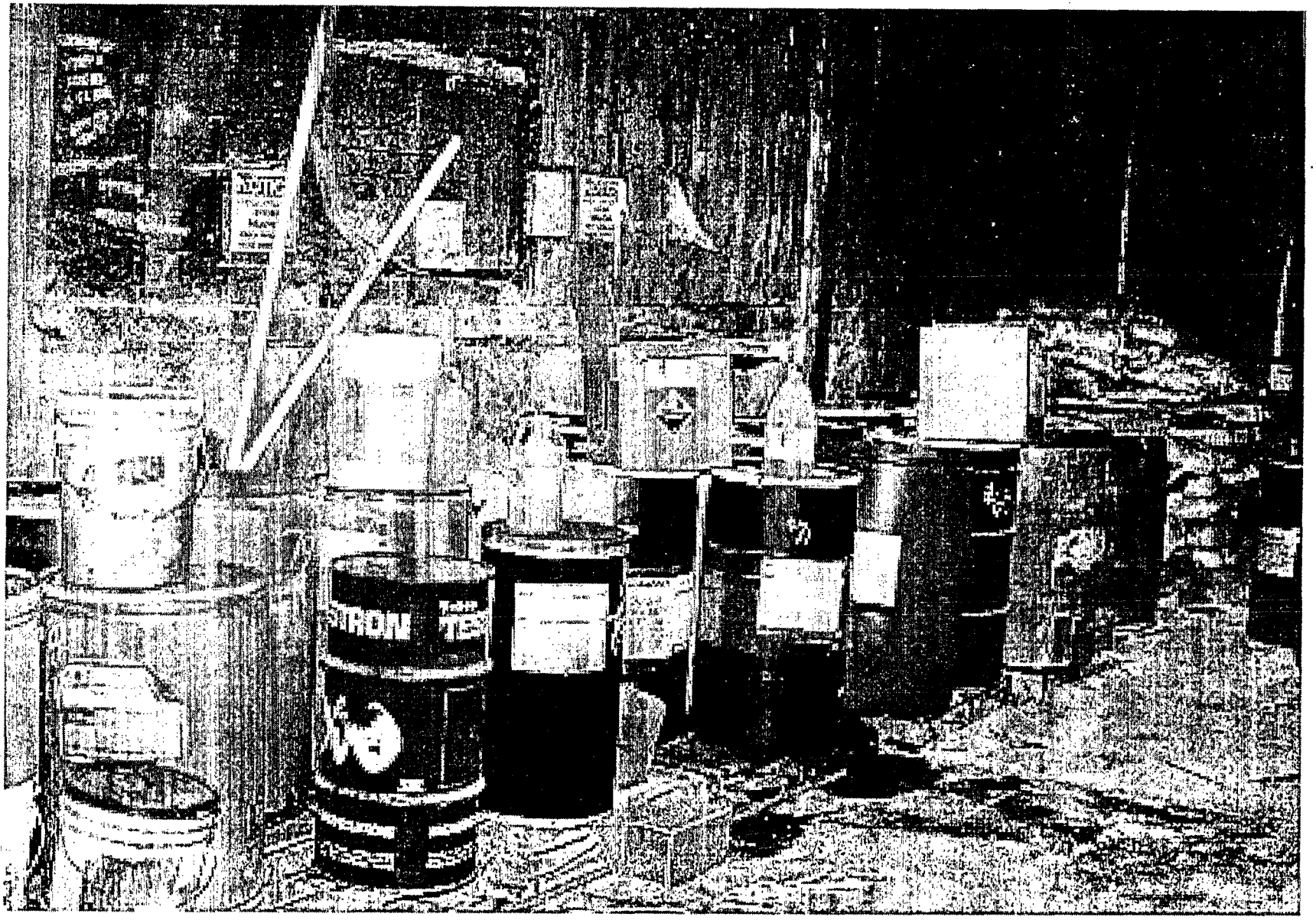


View of a drum of waste chlorinated solvent.

Plate No. 14

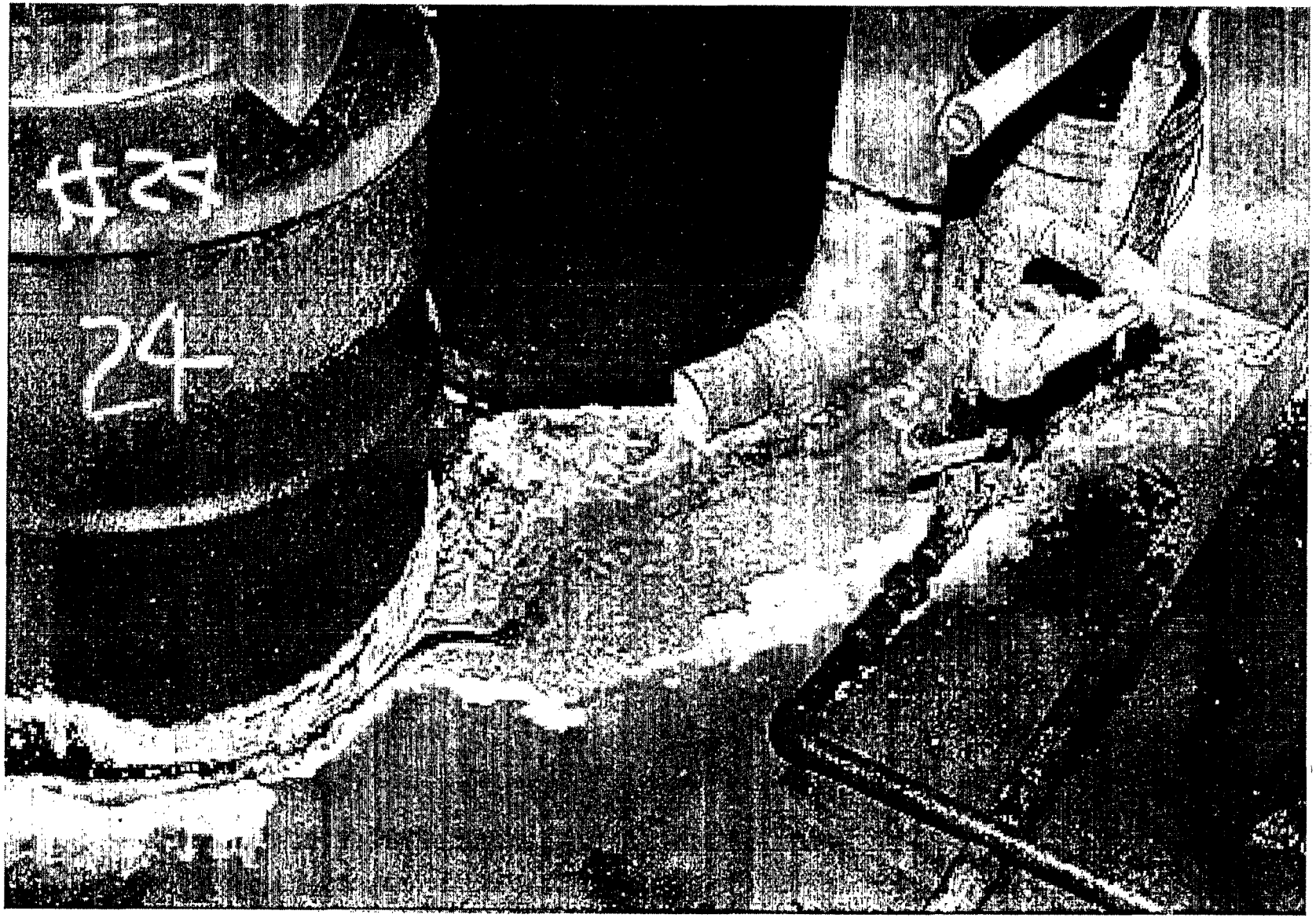
View of a containers of waste corrosive chemicals.

Plate No. 15



View of a containers of waste nonhazardous chemicals and incompatible waste hazardous chemicals.

Plate No. 16



View of a leaking drum, constituents unknown.

Plate No. 17

View of a waste paint.

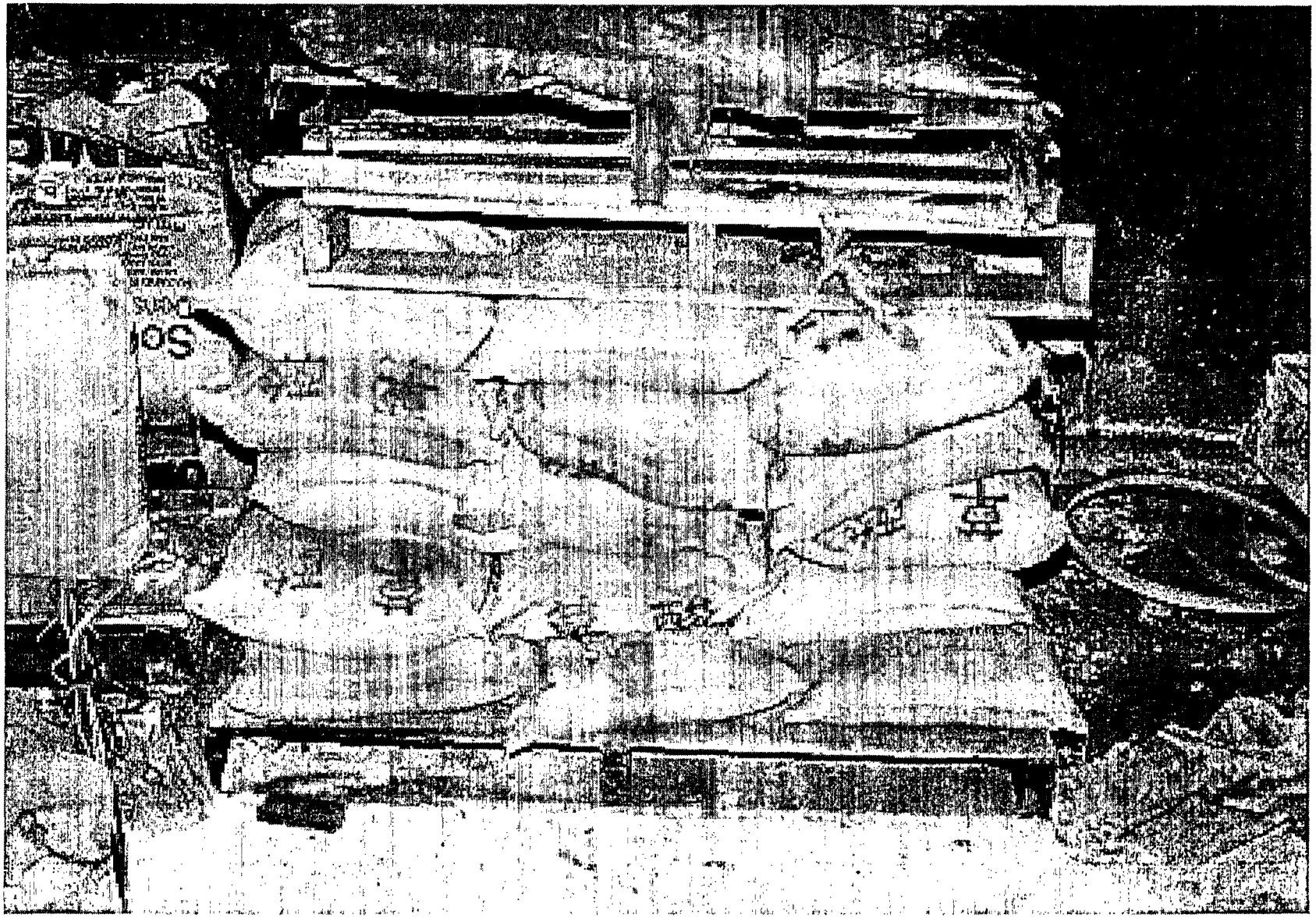
Plate No. 18

View of bulging drums located on vegetated strip between north parking area and building.

Plate No. 19

View of waste sulfuric acid.

Plate No. 20



View of waste sulfamic acid crystals.